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IS 10975 (1984): Electric gas lighters [ETD 32: Electrical Appliances]



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**SPECIFICATION FOR
ELECTRIC GAS LIGHTERS**

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SPECIFICATION FOR ELECTRIC GAS LIGHTERS

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AMENDMENT NO. 1 JUNE 1992
TO
IS 10975 : 1984 SPECIFICATION FOR ELECTRIC GAS
LIGHTERS

Substitute 'IS 302-1(1979) Safety of household and similar electrical appliances : Part 1 General requirements (*fifth revision*)' for 'IS 302 : 1979 General and safety requirements for household and similar electrical appliances (*fifth revision*)' wherever it appears in the standard.

(ETD 32)

Reprography Unit, BIS, New Delhi, India

Indian Standard

SPECIFICATION FOR ELECTRIC GAS LIGHTERS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 31 July 1984, after the draft finalized by the Electrical Appliances Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 This standard covers the general, safety and performance requirements of electric gas lighters to ensure personal safety against electric shock, safety against the effects of excessive temperature and reliable operation.

0.3 Though, of late, electronic lighters have been in vogue, electric gas lighters are also still in demand. This standard is formulated to ensure safety to the consumers and also to guide the manufacturers in making safe and reliable electric gas lighters. To minimize the reliance for safety of the gas lighter upon electrical installations in buildings, only class II type gas lighters are allowed which depend on the insulation of the appliance rather than the earth continuity conductor of the electrical installations.

0.4 This standard is to be read in conjunction with IS : 302-1979*. For the sake of convenience, the clauses of this standard correspond to those of IS : 302-1979*. Clauses which are applicable (which means that relevant provisions of that clause apply) or not applicable and necessary changes, wherever required, are indicated accordingly. Clauses/subclauses/tables which are additional to those of IS : 302-1979* are numbered starting from 101 : Should, however, any deviation exist between IS : 302-1979* and this standard, the provisions of the latter shall apply.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*General and safety requirements for household and similar electrical appliances (fifth revision).

†Rules for rounding off numerical values (revised),

1. SCOPE

This clause of IS : 302-1979* is applicable except as follows.

1.1 Replacement:

This standard covers the requirements and methods of test for electric gas lighters designed for connection to supply at voltage not exceeding 250 V ac single phase 50 Hz.

2. DEFINITIONS

This clause of IS : 302-1979* is applicable except as follows.

2.8, 2.11, 2.16, 2.18, 2.19, 2.21 to 2.23, 2.26 to 2.28 — Not applicable.

2.29 Replacement:

Conditions of Adequate Heat Discharge — The conditions that apply when the gas lighter is operated as in normal use.

2.30, 2.32, 2.34, 2.37 to 2.41, 2.46 — Not applicable.

3. GENERAL REQUIREMENT

This clause of IS : 302-1979* is applicable except that the provisions of second para of 3.1 are not applicable.

4. GENERAL NOTES ON TESTS

This clause of IS : 302-1979* is applicable except as follows.

4.2 Replacement:

The type tests are carried out on two samples which shall withstand the relevant tests specified in the standard.

NOTE 1 — If it is evident from the design of the gas lighter that a particular test is not applicable, that test is not made.

NOTE 2 — Components, such as switches, if required to be tested, shall be submitted along with the gas lighter.

4.5, 4.8 to 4.10, 4.12 to 4.14, 4.16 and 4.19 — Not applicable.

5. RATING

This clause of IS : 302-1979* is applicable except as follows.

5.1 Replacement:

The rated voltage shall be 240 V single-phase ac. However, 230 V

*General and safety requirements for household and similar electrical appliances (*fifth revision*).

single-phase is also permitted for the time being (*see* 0.4 and 0.5 of IS : 585-1962*).

5.2.2 and 5.2.3 — Not applicable.

6. CLASSIFICATION

This clause of IS : 302-1979† is applicable except as follows.

6.1 Replacement:

Gas lighters shall be classified:

- a) according to protection against electric shock:
Class II appliances.
- b) according to degree of protection against moisture:
Ordinary appliances.

7. MARKING

This clause of IS : 302-1979† is applicable except as follows.

7.1 Replacement:

Appliances shall be marked with:

- a) rated voltage/rated voltage range,
- b) symbol for nature of supply,
- c) rated frequency or rated frequency range in Hertz,
- d) rated input in watts (optional),
- e) makers' or responsible vendors' trade-mark or identification mark,
- f) makers' model or type reference,
- g) symbol for class II construction,
- h) rated operating time and rated resting time in seconds, and
- j) country of origin.

7.2 to 7.4, 7.6 to 7.12 — Not applicable.

*Specification for voltages and frequency for ac transmission and distribution systems (*revised*).

†General and safety requirements for household and similar electrical appliances (*fifth revision*).

8. PROTECTION AGAINST ELECTRIC SHOCK

This clause of IS : 302-1979* is applicable except as follows.

8.2 to 8.4, 8.8 and 8.9 — Not applicable.

9. STARTING OF MOTOR-OPERATED APPLIANCES

This clause of IS : 302-1979* is not applicable.

10. INPUT AND CURRENT

This clause of IS : 302-1979* is not applicable.

11. TEMPERATURE-RISE

This clause of IS : 302-1979* is not applicable.

11.5, 11.6, 11.9 and 11.10 — Not applicable.

12. OPERATION UNDER OVERLOAD CONDITIONS OF APPLIANCES WITH HEATING ELEMENTS

This clause of IS : 302-1979* is not applicable.

13. ELECTRICAL INSULATION AND LEAKAGE CURRENT AT OPERATING TEMPERATURE

This clause of IS : 302-1979* is applicable except that **13.4** is not applicable.

14. RADIO AND TELEVISION INTERFERENCE SUPPRESSION

This clause of IS : 302-1979* is not applicable.

15. MOISTURE RESISTANCE

This clause of IS : 302-1979* is applicable except as follows.

15.1 to 15.3 — Not applicable.

16. INSULATION RESISTANCE AND ELECTRIC STRENGTH (AFTER HUMIDITY TREATMENT)

This clause of IS : 302-1979* is applicable except as follows.

16.3 Not applicable.

*General and safety requirements for household and similar electrical appliances (fifth revision).

17. OVERLOAD PROTECTION

This clause of IS : 302-1979* is not applicable.

18. ENDURANCE

This clause of IS : 302-1979* is applicable except as follows.

18.1 Replacement:

Gas lighters shall be so constructed that in normal use, there shall be no electrical or mechanical failure that might impair compliance with this standard. The insulation shall not be damaged and contacts and connections shall not work loose after the endurance test.

18.2 Replacement:

The gas lighter shall be connected to supply at rated voltage. The endurance test shall consist of 5 000 operations, each operation comprising 1 second connection to supply and 3 seconds disconnection.

Immediately after the endurance test, the temperature of the windings of the coil shall be measured and it shall not exceed 80°C.

18.3 and 18.4 — Not applicable.

19. ABNORMAL OPERATION

This clause of IS : 302-1979* is not applicable.

20. STABILITY AND MECHANICAL HAZARDS

This clause of IS : 302-1979* is not applicable.

21. MECHANICAL STRENGTH

This clause of IS : 302-1979* is applicable except that **21.2 to 21.4** are not applicable.

22. CONSTRUCTION

This clause of IS : 302-1979* is applicable except as follows.

22.1 Replacement:

The electric gas lighter shall be of class I construction with respect to protection against electric shock. Compliance is checked by inspection and the relevant tests specified.

*General and safety requirements for household and similar electrical appliances (fifth revision).

IS : 10975 - 1984

22.2 Replacement:

The electric gas lighter may belong to the category Ordinary Appliances, regarding protection against moisture. Compliance is checked by inspection and relevant tests.

22.4 to 22.9, 22.15, 22.16, 22.22, 22.24 to 22.27, 22.29, 22.30, 22.32 and 22.33 are not applicable.

Additional Sub-clause:

22.101 Electric gas lighters shall be provided with double-pole disconnection on the appliance to control the supply.

Compliance is checked by visual inspection.

23. INTERNAL WIRING

This clause of IS : 302-1979* is applicable except as follows.

23.4, 23.6 to 23.8 are not applicable.

24. COMPONENTS

This clause of IS : 302-1979* is applicable except that:

24.3 to 24.10 are not applicable.

25. SUPPLY CONNECTIONS AND EXTERNAL FLEXIBLE CABLES AND CORDS

This clause of IS : 302-1979* is applicable except as follows.

25.1 Replacement:

Electric gas lighters shall be provided with a power supply cord for connection to the supply. Compliance is checked by inspection.

25.2 and 25.3 are not applicable.

25.4 Addition:

Type Z attachment is not allowed for electric gas lighters.

25.6 Addition:

The length of the power supply cord external to the appliance shall be at least 2'0 m.

25.7 to 25.9 and 25.13 are not applicable.

26. TERMINALS FOR EXTERNAL CONDUCTORS

This clause of IS : 302-1979* is not applicable.

*General and safety requirements for household and similar electrical appliances (fifth revision).

27. PROVISION FOR EARTHING

This clause of IS : 302-1979* is not applicable.

28. SCREWS AND CONNECTIONS

This clause of IS : 302-1979* is applicable.

29. CREEPAGE DISTANCES AND CLEARANCES

This clause of IS : 302-1979* is applicable.

30. RESISTANCE TO HEAT, FIRE AND TRACKING

This clause of IS : 302-1979* is applicable.

31. RESISTANCE TO RUSTING

This clause of IS : 302-1979* is applicable.

32. RADIATION HAZARDS

This clause of IS : 302-1979* is not applicable.

33. FINISH

33.1 Replacement:

The external finish used on metal components shall be of a heat and moisture resisting nature and shall not be adversely affected by variations in temperature occurring under normal operating conditions or after the endurance test.

Compliance shall be checked by visual inspection after endurance test.

Additional Clauses:

101. PERFORMANCE

101.1 The gas lighter shall be capable of generating the spark of an intensity to ignite the LP gas.

102. TESTS

102.1 Type Tests — The tests specified in Table 101 shall constitute the type tests and shall be carried out on two samples of gas lighters of the same type and rating selected preferably at random from a regular production lot. Before commencement of the tests, the gas lighter shall be visually examined and inspected for obvious visual defects in respect of components, parts and their assembly, construction, stability, markings, provision of suitable terminals for supply connections, earthing and the effectiveness of screws and connections. The external surface finish shall be even and free from finishing defects.

*General and safety requirements for household and similar electrical appliances (fifth revision).

TABLE 101 SCHEDULE OF TYPE TESTS

(Clause 102.1)

SL No. (1)	TEST FOR (2)	CLAUSE REFERENCE (3)
i)	Protection against electric shock	8
ii)	Performance	101
iii)	Electrical insulation and leakage current at operating temperature	13
iv)	Moisture resistance	15
v)	Insulation resistance and electric strength (after humidity treatment)	16
vi)	Endurance	18
vii)	Mechanical strength	21
viii)	Cord grip and cord guard	25
ix)	Screws and connection	28
x)	Creepage distances and clearances	29
xi)	Resistance to heat, fire and tracking	30
xii)	Resistance to rusting	31

102.1.1 Criteria for Acceptance — All samples shall successfully pass all the type tests for proving conformity with the requirements of the standard. If any of the samples fails in any of the type tests, the testing authority, at its discretion, may call for fresh samples not exceeding twice the original number, and subject them again to all tests or the test(s) in which failure(s) occurred. No failure should be permitted in the repeat test(s).

102.2 Acceptance Tests — The following shall constitute the acceptance tests:

<i>Test for</i>	<i>Clause Reference</i>
a) Protection against electric shock	8
b) Performance	101
c) Insulation resistance and electric strength at operating temperature	13
d) Moisture resistance	15
e) Insulation resistance and electric strength (after humidity treatment)	16

102.2.1 A recommended sampling procedure for acceptance tests is given in Appendix B of IS : 302-1979*.

102.3 Routine Tests — The following tests shall constitute the routine tests:

<i>Test for</i>	<i>Clause Reference</i>
a) Protection against electric shock	8
b) High voltage	13.2.2 of IS : 302-1979*

*General and safety requirements for household and similar electrical appliances (fifth revision).



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